



WORK HARASSMENT, WORKING CONDITIONS AND HEALTH PROBLEMS PREVAILING IN GARMENT FACTORIES IN BENGALURU - A STUDY

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Abstract

Background : Indian Textiles and Apparels (T&A) account for approximately 4% of global market. T&A is the largest and most significant sectors for Indian economy in terms of output, foreign exchange earnings and employment. The industry contributed 7% to the industrial output in value terms, 2% to the GDP and 15% to the country's export earnings. T&A is providing direct employment to the 45 million people and it is the second largest job provider after agriculture. As per WTO (World Trade Statistics Review 2018) India ranked 5th largest exporter of RMG in the world. There are 1200 garment units in and around Bengaluru hosts several large scale garment companies, such as Shahi Exports, Laguna Clothing, Raymond, Madhura Garments, Arvind, Gokuldas, Fashion and Garment Suits, Bombay Rayon etc., (<https://wastra.in/karnatakathe-gar>). The apparel industry demand exports grew at a slightly slow CAGR of 13% from 2432 billion in FY 2010 to Rs. 6484 billion in 2018 (Care ratings, 2019).

Method : A cross sectional study was conducted among the garment industry workers at Bengaluru and covered the heavy concentrated garment units in three areas viz., Peenya Industrial Area, Mysore Road and Bommanahalli. The required data collected by administering structured questionnaire as schedule after considering the level of literacy, delay, incompleteness and respecting the Covid-19 norms like social distance, weekend curfew and regular evening curfews. The primary data gathered by the researcher after visiting the above three areas. 100 sample were considered sufficient for the study at this situation of Covid-19 pandemic. Chi-square test was used as a test of significance and contingency co-efficient used to measure degree of relationship, ANOVA to measure variability in the statements, summation score to measure the significant physical health vulnerabilities, Garrett ranking test used to rank the psychological health consequences. Tables were prepared and analysis of data done by performing simple statistical tools to understand and to calculate statistical tools.

Results : The study reveals that respondents are aware of consequences of physical health vulnerabilities. Stress, neurological problems, musculoskeletal problems are some of health hazards haunting the workers. The reasons behind psychological health consequences like long working hours, job insecurity, and work related injury. Harassment still continued in almost all the garment units and they include work place harassment, gender discrimination, physical harassment and low wages etc., The study also highlighted factors responsible for bad working



conditions. The managements are under the impression that through continuous harassment the stated goal of attaining profits in the range of 100-150% may be attained. The first harassment is about no job security followed by poor observation of Covid norms, and low wages. The study revealed that bad working environment, ill ventilation and poorly illuminated room are some of the causes of musculoskeletal problems.

Conclusion : The garment workers at Bengaluru, a female labour dominated industry requires a heartfelt implementation of strategies and namesake peaceful efforts never solves the problems of workers. Restrictions to use rest rooms, should be removed and potable water facility should be provided in factories 24/7. Awareness of health improvement programs, a continuous motivation, implementation of monetary and non-monetary welfare schemes may help the workers who are available in excess at present.

Keywords : Musculoskeletal hazards, working conditions, potable water, social welfare, low wages, poor illumination, overwork, stress, strategy, environment.

Introduction :

Bengaluru's garment industry is characterized by large units, with limited subcontracting and with limited use of contract labourers. (Roy Chowdhary, 2005). There are 1200 garment units big and small in Bengaluru providing jobs to more than 5 lakhs. Workers come from various suburbs of Bengaluru and the villages beyond them and are generally aged between 18 and 45 years. The sociological background of labourers working in garment units reveals that most of them are middle school dropouts or uneducated and look for daily wage or job in the garment sector (Krishan, 2020). The women employees are low skilled, not highly literate and are heavily subjected to harassment, discrimination in many garment units. According to ILO, at least 2 million deaths per year are accounted to occupational diseases and injuries (Rosenstock et al., 2006). Garment units employees subjected to different health hazards by virtue of their working conditions. Health issues represent the important among the hazards faced by workers during their work tenure. In addition to this sexual harassment at work place, low wages and repetitive strain from physically demanding work (Akram, 2014; Ahmed, S. Raihan, MZ 2014). Workers who perform repetitive nature of work are prone to physical, psychological and nutritional health problems (Joseph, B et al., 2011; Ahmed S. et al. 2014). The most common health hazards are respiratory problems, cardio vascular diseases, and neurological, musculoskeletal and nutritional problems. The workers working in garment sector suffer from some health problems like malnutrition, less appetite, diarrhea, jaundice, food poisoning etc., The medical facilities available in the units are not sufficient, and are only capable of providing first aid and handle emergency situation.

Hazards on garment units include, chemical, heat and noise, burns and puncture wounds, allergies, poor nutrition, physical and psychological ones that emerges on account of poor lighting, depressing work environment, abusive nature of superintendents. In most of the cases workers do not create hazards but they are emerged from work place (Padmini DS et al., 2012).



Statement of the problem:

RMG workers face innumerable hazards while working in garment units at Bengaluru. There are 1200 garments units both big and small at Bengaluru and employs 1 million workers. 80% of the workers are women (Krishnan, 2020). The garment exports from Karnataka earns Rs. 4000 crores which is similar to 15% of total exports of Karnataka. RMG employees are often and often affected by a multiple number of diseases on account of bad working conditions including coughs, fevers, jaundice, musculoskeletal hazards, respiratory problems and HIV as a result of their employment. The workers are exposed to both physical, and psychological problems and hence their productivity rates reduces and financial problems increases. Further, RMG employees do not get full wages when on sick leave and failing health may lead to much stress. Similar to other kind of employees RMG employees have the right to work in a safe environment. Establishment of better health conditions in garment units restores work life balance and beneficial to the management, and workers productivity rates enhances. Therefore it is significant to study the impact of health hazards on employees and understanding of these issues will help to explore an effective way to insure and to introduce better conditions which is free from health vulnerable.

Review of literature

Saha, T. et al. (2010) observed in their study at Kolkata that musculoskeletal problem were the commonest health problem (69.64%) followed by sleep disturbances and gastrointestinal problems. There variations emerged on account of differences in demographics and occupational setting.

Ravichandran, SP et al. (2018) stated that musculoskeletal disorders were more among workers in age group above 35 years.

Bandopadhyay L. et al. (2012) their study revealed that musculoskeletal disorders were significantly more among participants < 35 years age group.

KaravadiVidusha et al. (2019) expressed that the success of garment factory has been made at the cost of worker health. The health problems prevailing among garment workers is quite high with the most common being musculoskeletal problem and anemia. The study highlighted age as a significant factor in the development of various musculoskeletal problems.

Santham Lilly Pet et al. (2018) probed about the prevalence of musculoskeletal problems amongst garment factory workers in Bengaluru. Their details of demographic and assessment of musculoskeletal problems were obtained. The report reveals about the causes of musculoskeletal problem which includes continuous sitting, bending and twisting at the waist, abnormal posture and movements during work and continuous standing. The study further reveals that the garment workers work for long hours and anxiety depression and somatic illness are also associated with the musculoskeletal problems.



Ravi, V. et al., (2018) study highlights the problems faced by garment workers. The problems relating to the working conditions, occupational hazards, work harassment hostel problems etc., are prevalent and employees are put to severe hardships. The study suggested that migrant workers should not be distinguished and they should be treated on par with local workers. The management of garment units should introduce both monetary and non-monetary welfare schemes to the employees.

Rohini Mohan (2017) states that employees have been to recruit migrant workers from states such as Bihar, Odisha and UP. The study further reveals that labourers contribute to arrive from rural Karnataka in search of garment sector job. The wages of migrant workers are lower than the local workers since they are new to the city and do not know the local language.

Santham Lilly Pet et al., (2017) reported that the health problems like musculoskeletal disorder was more prevalent in garment workers and it varies from 15.5% to 78.89% and the most reported prevalence of back pain was in between 22.2% and 68.5% among the employees who are included in sewing, cutting and delivery.

Objectives of the study

- 1) To study the socio-economic characteristics of respondents.
- 2) To analyse the consequences of physical health vulnerable and to know the reasons behind psychological consequences.
- 3) To analyse the drivers of work harassment and working conditions in garment units at Bengaluru.
- 4) To analyse the reasons behind musculoskeletal problems.

Hypotheses

- 1) The demographics are not impacting the study.
- 2) There are no consequences of physical health vulnerable and there are no reasons behind psychological consequences.
- 3) There are no drivers of work harassment and working conditions.
- 4) There are no reasons behind musculoskeletal problems.

Research questions

- 1) What are the reasons behind the demographic not impacting the study?
- 2) What are the consequences of physical health vulnerable and what are the reasons behind psychological consequences?
- 3) What are the drivers of work harassment and working conditions in garment units at Bengaluru?
- 4) What are the reasons behind musculoskeletal problems?

Research Methodology : The present study has used both primary data and secondary data. The primary data has been collected directly from the researcher from the respondents by using



structural questionnaire with the help of convenient sampling technique and secondary sources include e-journals, internet and newspapers.

Sampling designs :For the purpose of the study 100 respondents have been chosen in Bengaluru urban by using convenience sampling technique. The questionnaire was prepared and administered in person to all the respondents in the form of schedule in order to respect Covid-19 norms and to avoid delay and response. The gathered data has been presented in the form of tables.

Universe of the study: The study is only confined to Urban Bengaluru and confined areas were Mysore road, Peenya Industrial Area and Bommanahalli. Only female workers working in the above garment units were considered and male workers were excluded from the study since all kind of harassments, health problems are suffered only by female garment workers.

Method of data collection : In this study raw data are classified, tabulated for analysis with suitable editing, chi-square contingency coefficient, weighted average, Kendall's co-efficient of concordance and ANOVA.

Limitations

- (1) The study is only confined to Bengaluru.
- (2) Any generalization requires further in-depth study as the sample is small and only a few locations were considered for data collection.
- (3) Covid-19 pandemic posed some hurdles but with the follow up of norms the data collection was done successfully.

Data presentation and analyses : Demographics of respondents - A

The concerned demographics of respondents were studied to know the impact created on garment units workers. These demographics include marital status, age, religion, literacy, salary / wages, mode of communication, residence, migration status, work experience and work posture.

Research question No. 1: What are reasons behind the demographics not impacting the study?

Hypotheses No. 1 : H₀ : There exist no significant variation, in the demographics of respondents working in garment units.

Hypotheses : H₁ : There exist significant variation in the demographics of respondents working in garment units.

Table - 1 depicts about socio-economic characteristics of respondents. There are 85 respondents married and 15 are unmarried. There are 59 Hindus, 21 Muslims, 15 Christians, 5 Jain and 60 respondents belongs to the age group of 21-30 years, 17 to the group > 40 years, 14 to the 31-40 years and 9 belongs <20 years. 32 respondents studied up to middle school, 25 studied up to high school, 23 studied up to 10th standard, 8 illiterates, 7 completed PUC, and 5 are graduates. 36



respondents are getting monthly salary in between 7K-9K followed by 24 between 5K-7K, 22 > 5K, 10 between 9K-11K and 8 > 11K. The mode of communication includes 28 travelling in a hired bus by management, 25 by train / BMTC buses, 22 private vehicle, 11 auto-rickshaw / two wheeler, 10 walk to work, 4 other means of transportation. There are 52 respondents working with experience of > 3 years, 36 < 3 years, 5 respondents working with > 5 years. 46 are living in rented house, 22 own house, 16 living slum temporary sheds, 13 factory accommodation and 8 residing in relatives house. The migration data reveals that 49 came from outside Karnataka, 41 rural to Bengaluru, and 10 within Bengaluru. 82 respondents attend work in a standing posture while 18 attend the work by sitting. All the demographics show significant relation and high degree of association between demographics and work in garment units.

Research Question No. 2 : What are the consequences of physical health vulnerable and what are the reasons behind psychological consequences?

Hypotheses No. 2: H₀ : There exist no significant variation in the consequences of physical vulnerable and reasons behind psychological consequences.

H₁ : There exist significant variation in the consequences of physical health and reasons behind psychological consequences.

Table 2 and 3 reveals data about consequences of physical health vulnerable and reasons behind psychological consequences. To measure consequences of physical vulnerable summated score has been performed. The opinions of respondents are expressed using 5 point Likert scale SA to SDA. These opinions are by multiplied weights 5, 4, 3, 2, 1 respectively.

Table - 2 reveals that all the statements / factors or consequences shows satisfactory result as far as consequence is concerned with score above 400 and onwards. The great consequences is about stress followed by musculoskeletal problem and neurological problems. The less satisfactions factors influencing the physical consequences include common cold, mental health problem, hypertension, diabetes and anemia.

Table - 3 reveals data about the reasons behind psychological health consequences. These consequences vary from lack of freedom at work to lack of recognition. These consequences are measured by performing Garrett Ranking Table where in the psychological consequences are ranked and shown in the table. Value (x) is obtained by performing the formula $100 (R_{ij} - 0.5) / N_j$ and then referring the percent values with the Garrett conversion table to get Garrett values (see table-4). Depending upon the strength of mean score which was obtained by dividing the sum of 'fx' by 'N' and fx is obtained by multiplying frequency with the Garrett values concerned and the ranks are awarded. Accordingly first rank was awarded to long working hours, the second rank was given to job insecurity and the third rank was awarded to work related injury. The others ranks are awarded based on the strength of mean score.

Table - 5 depicts data about factors impacting work harassment. These factors vary from gender discrimination to low wages, denial of leave etc. The opinions expressed by respondents is presented in the table and measured by performing ANOVA statistical tool. There are 56



respondents who have expressed strongly agree followed by 30 agree and 14 somewhat agree. Out of 56 who stated strongly agree 14 revealed about work place harassment 8 each spoke about no employment contract and migrant employees are denied of effective grievance redressal and further 8 more stated about low wages, denial of leave etc. 7 each respondents noticed about gender discrimination and physical harassment. Out of 30 who said agree 11 pointed at work place harassment, verbal, mental, sexual and abuse, 5 pointed at gender discrimination and 4 said about physical harassment. Out of 14 who said somewhat agree 3 each expressed about gender discrimination and work place harassment. ANOVA quantitative technique fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant variation in the data.

Table - 6 shows data about factors impacting on working conditions in garment units. These impacting factors vary from no job security to poor observation of Covid-19 norms. Weighted average technique was performed to know the relative importance of factors impacting working conditions. The opinions are presented using weighted average technique. The opinions (f) are multiplied by the concerned weights (w) and the total is divided by the sum of weights. $5+4+3+2+1 = 15$ to get WA. The first relative important impacting factor is no job security, the second is poor observation of and the third relative important factor impacting working in garments is low wages. The remaining factors weighted average is computed based on the total of 'fw'.

Table - 7 highlights data about reasons behind one of the most common problem faced by garment workers, is musculoskeletal problem. The factors influencing the musculoskeletal problem varies from bad working environment to working with back twisted or bent forward and physical exposure. To measure the significant degree of association between the factors and reasons for musculoskeletal problems, Kendall's co-efficient of concordance was performed. 55 respondents stated strongly agree followed by 30 agree and 15 somewhat agree. Out of the 55 who said strongly agree 14 expressed about bad working environment, 10 ill ventilation 8 poorly illuminated room, 7 pointed at high repetitive work, out of 30 who said agree 8 spoke about ill ventilation, 6 bad working condition and 5 stated about poorly illuminated room. Out of 15 who expressed somewhat agree, 4 expressed about bad working environment, 3 point about ill illumination. 'w' fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant association between the factors and musculoskeletal problems.

Summary and conclusion :

The main purpose of the present paper is to know about whether demographics impact the study or not, to understand the consequences of physical health vulnerabilities, psychological consequences, factors impacting work harassment, factors impacting working conditions, reasons behind musculoskeletal problems. The present study followed convenient sampling technique and covered the areas like Peenya Industrial Area, Mysore road and Bommanahalli. A structured questionnaire was administered as schedule in order to avoid delay, incompleteness and to respect the Covid-19 norms. The findings were presented and analysed by using quantitative techniques like Chi-square, contingency coefficient of concordance, ANOVA, weighted average



and Kendall's co-efficient of concordance. The outcome of the present study attracts the attention garment units owners, social scientists, researchers and administration. The findings of the study reveals about the present of positive demographics impacting the study, consequences of physical health vulnerabilities, psychological health consequences and reasons behind, factors driving work harassment, factors impacting working conditions and the reasons behind musculoskeletal problems being the most prevalent problems in all garment units in Bengaluru. The top three satisfactory statements causing consequences of physical vulnerabilities include, stress, musculoskeletal problems, and neurological problem. The main reason behind psychological consequences includes, long working hours, job insecurity, and work related injury.

Further, the study also highlights about the existence of significant variation in the factors driving work harassment. These harassments include work place harassment, verbal, mental, sexual and abuse, gender discrimination and low wages, denial of leave etc. Innumerable factors impact working conditions in garment units. The relative important first three as per the study includes no job security, poor observation of Covid norms, and low wages. Finally the study highlights the existence of high degree of association between factors and musculoskeletal problems. The responses expressed by the respondents reveals that bad working environment, ill ventilation and poorly illuminated room are the three in the order are the factors mainly impacting on musculoskeletal problem.

Respondents bipolar expressions are the basis of analysis and presentation of data. It was found that the garment female workers are aware of consequences of physical health vulnerabilities and aware of reasons behind psychological health consequences. Innumerable reports on garment workers suffering from various ailments, such as respiratory illness, tuberculosis, ergonomic issues like back pain, mental health problems such as depression and anxiety and reproductive health issues such as white discharge, irregular periods and excessive bleeding (Cividep India, 2015). Further, the respondents also aware of factors impact working conditions. One of the major health hazard faced by respondents is musculoskeletal. The findings of the study were presented, analysed and discussed using the chi-square, contingency coefficient, Kendall's coefficient of concordance, Summated score, Garrett Ranking technique and ANOVA.

Conclusion

The study reveals that garment unit worker faces innumerable physical and psychological problems. The major common health hazard faced by employees include stress, no security of job and tension, low wages, bad ventilation and working conditions, supplying of steel gloves only on the day of inspections and poor illumination. Needle punctures is also a major accident that should be avoided. Production torture continues without stop and nothing appears to have changed in the management attitude towards absence and harassment. Workers of different units have said drinking water unfiltered is supplied straight from bore well. Employees are under pressure to use the toilets though maintained properly twice in a day. Though the situation appears to be unhealthy, small changes has been made over the past decades. The study shows the presence of significant variation in the working conditions, income, physical and psychological problems and employees also facing work related problems. The study highlights



multiple problems are faced by employees thus demands that management should make big changes than small. The migrant employees should be treated on par with other local employees. In addition to monetary welfare faculties the managements should try to implement non monetary like physical abuse stopping, stop in the sexual harassment and stopping scolding and providing better working conditions.

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Table - 1 : Socio-economic characteristics of respondents.

Characteristics	x ²	TV@0.05	df	result of x ²	“c”	Result of ‘C’
Marital status	49.00	3.841	1	Significant	0.57	High Degree
Religion	66.88	7.815	3	Significant	0.63	High Degree
Age	66.64	7.815	3	Significant	0.83	High Degree
Education / literacy	38.95	11.050	5	Significant	0.52	High Degree
Salary / wages	36.00	9.488	4	Significant	0.51	High Degree
Mode of communication	27.79	11.050	5	Significant	0.47	High Degree
Residence	32.70	9.488	4	Significant	0.50	High Degree
Migration status	25.46	5.991	2	Significant	0.45	High Degree
Work experience	24.32	5.991	2	Significant	0.44	High Degree
Work posture	40.96	3.841	1	Significant	0.53	High Degree

Source : Field Survey

Note : x² = chi-square

‘c’ = $\sqrt{(x^2 / x^2 + N)}$

Where ‘c’ = contingency coefficient

N = Number of observations

When the value ‘c’ is equal or near 1, it means there is high degree of association between attributes.

Contingency co-efficient will always to be less than 1.



Table - 2 : Consequences of physical health vulnerabilities

Statements / factors	SA	A	N	DA	SDA	Summated Score (SS)
Respiratory problems	65	20	8	4	3	
	325	80	24	8	3	440
Musculoskeletal problems	80	11	3	2	4	
	400	44	9	4	4	461
Back / joint pains	72	10	9	4	5	
	360	40	27	8	5	440
Common cold	50	15	17	5	13	
	250	60	51	10	13	384
Eye problem & loss of sight	66	10	8	9	7	
	330	40	51	10	13	419
Hepatitis (Jaundice)	65	18	10	5	2	
	325	72	30	10	2	439
Diarrhea	49	25	11	8	7	
	245	100	33	16	7	401
Gastric Problem	52	23	10	8	7	
	260	92	30	16	7	405
Cardiovascular problem	62	20	12	3	3	
	310	80	36	6	3	435
Neurological problem	68	22	7	2	1	
	340	88	21	4	1	454
Mental health problem	37	22	23	10	8	
	185	88	69	20	8	370
Hypertension	48	20	15	8	9	
	240	80	45	16	9	390
Stress	75	18	4	2	1	
	375	72	12	4	1	464
Menstrual irregularities	65	20	8	3	4	
	325	80	24	6	4	439
Diabetes Mellitus	39	26	18	8	9	
	195	104	54	16	9	378
Anemia	41	22	15	10	12	
	205	88	45	20	12	370

Source : Faced Survey

Likert scale : 1) SA - Strongly Agree, A - Agree, N - Neutral, DA - Disagree, SDA - Strongly Disagree

2) The multiplication of weights with frequencies are generally not shown in the case of summated score.



Table - 3 : Reasons behind psychological health consequences - Garrett Ranking Technique

Factors	Scale & Score value of ranks										Total	Mean Score	Rank
	Scale value(x)	I	II	III	IV	V	VI	VII	VIII	IX			
Lack of freedom at work	f	20	18	16	9	8	10	9	7	3	100		
	fx	1620	1242	992	495	400	450	351	217	57	5824	58.24	IX
Lack of promotion prospects	f	22	20	15	10	9	8	7	4	5	100		
	fx	1782	1380	930	550	450	360	273	124	95	5944	59.44	VII
Part time work	f	20	15	22	12	14	3	5	2	7	100		
	fx	1620	1035	1364	660	700	135	195	62	133	5904	59.04	VIII
Job insecurity	f	31	20	18	15	6	2	1	3	4	100		
	fx	2511	1380	1116	825	300	90	39	93	76	6430	64.30	II
Long working hours	f	32	21	16	14	10	2	2	1	2	100		
	fx	2592	1449	992	770	500	90	78	31	38	6540	65.40	I
Monotony of the type of work	f	24	18	21	13	6	5	4	3	6	100		
	fx	1944	1242	1302	715	300	225	156	93	114	6091	60.91	VI
Work related injury	f	29	22	15	13	8	5	2	3	3	100		
	fx	2349	1518	930	715	400	225	78	93	57	6365	63.65	III
Feeling unsafe in the workplace	f	28	23	15	10	9	5	4	2	4	100		
	fx	2268	1587	930	550	450	225	156	62	76	6304	63.04	IV
Lack of recognition	f	25	20	19	12	8	6	3	3	4	100		
	fx	2025	1380	1178	660	400	270	117	93	76	6199	61.99	V

Source : Field Survey

Note : X - scale value

f - number of respondents

R - Rank

Mean score = Total Score / N

Table - 4 : Garrett Ranking Conversion Table

Sl.No.	$100(R_{ij}-0.5)/N_j$	Calculated value	Garrett Value
1.	$100(1-0.5)/9$	5.56	81
2.	$100(2-0.5)/9$	16.67	69
3.	$100(3-0.5)/9$	27.78	62
4.	$100(4-0.5)/9$	38.88	55
5.	$100(5-0.5)/9$	50.00	50
6.	$100(6-0.5)/9$	61.11	45
7.	$100(7-0.5)/9$	72.22	39
8.	$100(8-0.5)/9$	83.33	31
9.	$100(9-0.5)/9$	94.44	19

Source : (1) Subhash Vadgale (2016). Village consumer behaviour towards perishable goods. A study with respect to Ahmednagar district of Maharashtra, Pezzottaite Journals, 5, (3) 2286-2287. (2) <https://pd4pro.com.edu>



Table - 5 : Factors impacting work harassment

Factors driving work harassment	SA	A	SWA	T
Gender discrimination	7	5	3	15
No employment contract	8	2	2	12
Workplace harassment like verbal, mental and sexual and abuse	14	11	3	28
Physical harassment like hitting with a piece of cloth, slapping and scolding etc.,	7	4	2	13
Migrant employees denied of effective grievance redressal	8	3	1	12
Punishing the employees to stand at the entrance	4	2	1	7
Low wages, denial of leave etc.,	8	3	2	13
Total	56	30	14	100

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, T - Total

Hypotheses

H_0	There exist no significant variation in the data	Reject
H_1	There exist significant variation in the data	Accept

ANOVA Table

Source of variation	SS	df	MS	F-ratio	5% F limit (From F table)
Between the sample	128.3527	(3-1)=2	128.3527/2 = 64.1763	64.1763/5.4127 = 11.86	
Within the sample	97.4287	(21-3)=18	97.4287/18 =5.4127		(2, 18) =3.55
Total	225.7814	(18-1)=17			

Source: Survey Data

ANOVA Analysis :The calculated value being 11.86 higher than the TV = 3.55 @ 5% level of significance with df = v1 = 2 and v2 = 18 fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant variation in the data.



Table - 6 : Factors impacting working conditions in Garment units.

Growth Drivers	Weight Likert Scale	5 SA	4 A	3 N	2 DA	1 SDA	Total	WA
No job security	f	78	16	3	2	1	100	
	fw	390	64	9	4	2	469	31.27
Illegal dismissals	f	58	12	19	5	6	100	
	fw	290	48	57	10	6	411	27.40
Low wages	f	75	17	4	2	2	100	
	fw	375	68	12	4	2	461	30.73
Compulsory OT but normal pay	f	74	15	4	5	2	100	
	fw	370	60	12	10	2	454	30.27
Denial of leave	f	55	12	15	10	8	100	
	fw	275	48	45	20	8	396	26.40
Demand to produce more	f	65	9	12	9	5	100	
	fw	325	36	36	18	5	420	28.00
Inadequate light	f	68	13	9	8	2	100	
	fw	340	52	27	16	2	437	29.13
No proper ventilation	f	71	18	2	4	5	100	
	fw	355	72	6	8	5	446	29.73
No drinking water	f	65	14	9	5	7	100	
	fw	325	70	27	10	7	439	29.27
Absence of rest rooms	f	70	15	8	4	3	100	
	fw	350	60	24	8	3	445	29.67
Absence of internal communication facilities	f	65	10	7	9	9	100	
	fw	325	40	21	18	9	413	27.53
Corporal punishment making to stand on the floor shop	f	58	16	11	8	7	100	
	fw	290	64	33	16	7	410	27.33
Poor observation of Covid-19 norms	f	76	15	6	2	1	100	
	fw	380	60	18	4	1	463	30.86

Source : Faced Survey

Likert scale : SA - Strongly Agree, A - Agree, N - Neutral, DA - Disagree, SDA - Strongly Disagree

Weights : 5 + 4 + 3 + 2 + 1 = 15

Weighted average = Total / sum of weights



Table - 7 : Reasons behind musculoskeletal problems

Factors impacting musculoskeletal problems	SA	A	SWA	RT	RT ²
Bad working environment	14	6	4	24	576
Remaining in a bent position for long time	5	3	2	10	100
Ill ventilation	10	8	3	21	441
Poorly illuminated room	8	5	1	14	196
High repetitive work	7	3	2	12	144
Heavy lifting	3	2	1	6	36
Working with hands lifted to scholar heights	4	2	1	7	49
Working with back twisted or bent forward and physical exposure	4	1	1	6	36
Total	55	30	15	100	1578

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, RT - Row Total

$$SSR = \sum RT^2 - (\sum RT)^2 / N$$

$$= 1578 - (100)^2 / 8$$

$$= 1578 - 10000 / 8 = 1578 - 1250$$

$$= 328$$

$$W = 12 \times SSR / K^2N (N^2 - 1)$$

$$= 12 \times 328 / 9 \times 8 (64-1)$$

$$= 3936 / 4536 = 0.86$$

Test the significance of W by using the chi-square statistic.

$$x^2 = k (n-1) w$$

$$= 3 (8-1) 0.86$$

$$= 3 \times 7 \times 0.86 = 18.06$$

Decision :At 7 d.f. with 0.05 level of significance the TV = 14.067. The calculated value being 18.06 higher than the critical table value and hence 'w' fails to accept H0 and accepts H1. Therefore it is concludes that there exist significant relationship between drivers of benefits and microfinance.